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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
08/987,775	12/09/1997	ACHIM GREFENSTEIN	47587/48070	6702

26474 7590 06/06/2002

KEIL & WEINKAUF  
1350 CONNECTICUT AVENUE, N.W.  
WASHINGTON, DC 20036

EXAMINER

KRUER, KEVIN R

ART UNIT	PAPER NUMBER
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1773

DATE MAILED: 06/06/2002

19

Please find below and/or attached an Office communication concerning this application or proceeding.

21-19

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	08/987,775	GREFENSTEIN ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Kevin R Kruer	1773	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 08 March 2002.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 24,26,30-32,34, and 39-42 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) 24,26,30-32,34, and 39-42 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All   b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                  | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Double Patenting***

1. Claim 32 objected to under 37 CFR 1.75 as being a substantial duplicate of claim 31. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).
2. Applicant is advised that should claim 39 be found allowable, claim 40 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

### ***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 24, 31, 32, and 39-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fischer et al. (US 5,747,568) in view of WO96/09928 (aka Sallmetall). Fischer teaches a molding material comprising 30-80wt% of an elastomeric grafting base and 20-70wt% of a shell grafted onto the grafting base (abstract). The grafting base comprises 90-99.9% of at least one alkyl acrylate and 0.1-10wt% of a polyfunctional crosslinking monomer. The shell comprises 0-100% styrene or

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substituted styrenes, and 0-100% of an acrylonitrile or methyl methacrylate. The above-described particles are dispersed in a hard matrix comprising 60-90wt% styrene or substituted styrene and 10-40% acrylonitrile (col 1, lines 48-col2, line 16). The composition may further contain up to 30t% of additives such as fibers (Col 4, lines 26-34). This composition exhibit good weather resistance, aging resistance, and high impact strength (col 4, lines 46-53), and are usable as signs (col 4, line 48).

Fischer does not teach that the molding material may be overlaid with a PMMA transparent layer and a transparent protective film. However, Sallmetall teaches a light transmitting cover foil intended for adhesion to an information-carrying surface (page 1, lines 1-5). The first layer of the cover foil comprises a deformable plastic (abstract). The examiner interprets the taught deformable plastic layer to read on the claimed transparent protective film of claim 41 because it will inherently provide the film with some layer of protection. The deformable plastic layer may be textured or patterned if desired (page 1, lines 30+). The cover foil further comprises a dimensionally stable carrier layer comprising, for instance, PMMA (abstract). The examiner notes that the taught dimensionally stable carrier layer reads on Applicant's claimed "transparent top layer of PMMA." A thermally activated hot melt layer comprising EVA, EEA, EBA, EMA, GBA or other low melting thermoplastics may be utilized to adhere the deformable plastic to the carrier sheet (abstract). The layers may be mutually connected via coextrusion (page 2, lines 14-16). It would have been obvious to one of ordinary skill in the art to utilize the cover film taught in Sallmetall on the sign taught in Fischer in order to protect the sign and provide the sign with the desired texturing and patterning.

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4. Claims 24, 31, 32, 34, and 39-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fischer et al. (US 5,747,568) in view of Ellison US 5,985,079). Fischer teaches a molding material comprising 30-80wt% of an elastomeric grafting base and 20-70wt% of a shell grafted onto the grafting base (abstract). The grafting base comprises 90-99.9% of at least one alkyl acrylate and 0.1-10wt% of a polyfunctional crosslinking monomer. The shell comprises 0-100% styrene or substituted styrenes, and 0-100% of an acrylonitrile or methyl methacrylate. The above-described particles are dispersed in a hard matrix comprising 60-90wt% styrene or substituted styrene and 10-40% acrylonitrile (col 1, lines 48-col2, line 16). The composition may further contain up to 30t% of additives such as fibers (Col 4, lines 26-34). This composition exhibit good weather resistance, aging resistance, and high impact strength (col 4, lines 46-53), and are usable as automobile parts (col 4, line 48).

Fischer does not teach the application of transparent surface coatings to the taught composition. However, Ellison teaches a flexible composite surfacing film for providing a substrate with desired surface characteristics. The film comprises a flexible transparent outer polymer clear coat layer and a pigmented base coat layer is adhered to said outer clear coat layer and is visible there through (abstract). The transparent outer polymer clear coat layer may comprise outer and inner layers of differing properties. For example, both layers may comprise a blend of fluorinated polymer and an acrylic resin. However, the outer layer may be rich in the fluorinated polymer to enhance weatherability, and the inner layer may be rich in acrylic resin to improve bonding to the pigmented layer (col 7, lines 15-37). The acrylic resin may be polymethyl

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methacrylate homopolymers (col 6, lines 24-42). Both polymers may be extruded from the same extrusion die (col 7, line 40). The pigmented polymer may also be extruded (col 8, line 35). The surfacing film may be applied to polymeric supporting substrates in accordance with known laminating or bonding techniques. Particularly suitable shaped articles of the invention are exterior automobile parts (col 11, line 36). Thus, it would have been obvious to one of ordinary skill in the art to apply the surfacing film taught in Ellison to the composition taught in Fischer in order to supply the composition with the desired surface characteristics.

5. Claims 24, 31, 23, and 39-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rosenau et al. (US 5,821,302) in view of Ellison (US 5,985,079). Rosenau teaches a thermoplastic molding composition comprising (a) 50-100wt% of a styrene compound, and (b) 0.1-70wt% of a graft polymer. The styrene compound may comprise 0-40wt% acrylonitrile. The graft polymer comprises 30-90wt% of a core, and 10-70wt% of a graft shell. The core comprises 50-99.99wt% of C1-10 alkyl acrylate, and 0.01-5wt% of a polyfunctional crosslinking monomer. The shell comprises 50-100wt% styrene and 0-40wt% acrylonitrile (col 1, lines 4-65). The graft polymer has an average particle diameter of less than 700nm. The composition may further comprise up to 70wt% of a particulate polymer. The composition is useful in extrusions, injection moldings, calendaring, and rolling (col 10, lines 58-64). The composition is especially useful in exterior applications, such as automobile construction (col 10, lines 65+).

Rosenau does not teach the claimed top coat or protective coat may be applied to the taught composition. However, Ellison teaches a flexible composite surfacing film

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for providing a substrate with desired surface characteristics. The film comprises a flexible transparent outer polymer clear coat layer and a pigmented base coat layer is adhered to said outer clear coat layer and is visible there through (abstract). The transparent outer polymer clear coat layer may comprise outer and inner layers of differing properties. For example, both layers may comprise a blend of fluorinated polymer and an acrylic resin. However, the outer layer may be rich in the fluorinated polymer to enhance weatherability, and the inner layer may be rich in acrylic resin to improve bonding to the pigmented layer (col 7, lines 15-37). The acrylic resin may be polymethyl methacrylate homopolymers (col 6, lines 24-42). Both polymers may be extruded from the same extrusion die (col 7, line 40). The pigmented polymer may also be extruded (col 8, line 35). The surfacing film may be applied to polymeric supporting substrates in accordance with known laminating or bonding techniques. Particularly suitable shaped articles of the invention are exterior automobile parts (col 11, line 36). Thus, it would have been obvious to one of ordinary skill in the art to apply the surfacing film taught in Ellison to the composition taught in Rosenau in order to supply the composition with the desired surface characteristics.

6. Claims 24, 31, 32, 39, and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rosenau et al. (US 5,821,302) in view of Trabert et al. (US 5,318,737). Rosenau teaches a thermoplastic molding composition comprising (a) 50-100wt% of a styrene compound, and (b) 0.1-70wt% of a graft polymer. The styrene compound may comprise 0-40wt% acrylonitrile. The graft polymer comprises 30-90wt% of a core, and 10-70wt% of a graft shell. The core comprises 50-99.99wt% of C1-10

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alkyl acrylate, and 0.01-5wt% of a polyfunctional crosslinking monomer. The shell comprises 50-100wt% styrene and 0-40wt% acrylonitrile (col 1, lines 4-65). The graft polymer has an average particle diameter of less than 700nm. The composition may further comprise up to 70wt% of a particulate polymer. The composition is useful in extrusions, injection moldings, calendaring, and rolling (col 10, lines 58-64), and may be utilized to make automotive parts.

Rosenau does not teach that a transparent PMMA coating should be applied over the taught composition. However, Trabert teaches a capstock composition comprising an acrylic polymer and an acrylic based impact-modifying agent (abstract). The acrylic resin may comprise polymerized methyl methacrylate (col 6, line 16). The composition has particularly good flexural modulus and impact strength (col 5, line 27), scratch resistance, thermal resistance, and chemical resistance. Such resin compositions can be extruded onto the desired substrate (col 5, lines 29+) or coextruded with the substrate (col 5, lines 48+). The capstocks are especially useful with structural plastics (col 9, lines 1+). It would have been obvious to one of ordinary skill in the art to coextrude the capstock taught in Trabert with the composition taught in Rosenau in order to improve its chemical resistance, and impact strength.

7. Claims 24, 31, 32, 39, 40, and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rosenau et al. (US 5,821,302) in view of EP006421 (aka Endoh). Rosenau teaches a thermoplastic molding composition comprising (a) 50-100wt% of a styrene compound, and (b) 0.1-70wt% of a graft polymer. The styrene compound may comprise 0-40wt% acrylonitrile. The graft polymer comprises 30-90wt% of a core, and



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10-70wt% of a graft shell. The core comprises 50-99.99wt% of C1-10 alkyl acrylate, and 0.01-5wt% of a polyfunctional crosslinking monomer. The shell comprises 50-100wt% styrene and 0-40wt% acrylonitrile (col 1, lines 4-65). The graft polymer has an average particle diameter of less than 700nm. The composition may further comprise up to 70wt% of a particulate polymer. The composition is useful in extrusions, injection moldings, calendaring, and rolling (col 10, lines 58-64).

Rosenau does not teach that a PMMA transparent layer or a protective topcoat may be applied to the taught composition. However, Endoh teaches an extrusion laminate comprising a polyvinylidene fluoride layer, and an adhesive layer comprising a methyl methacrylate polymer (abstract). The methyl methacrylate polymer may comprise PMMA (page 9, lines 14+). The polyvinylidene fluoride layer provides the laminate with excellent weather resistance and chemical resistance. Thus, it would have been obvious to one of ordinary skill in the art to extrude the composition taught in Rosenau with the polyvinylidene fluoride and PMMA layers taught in Endoh in order to improve the composition's weather and chemical resistance.

8. Claims 24, 31, 32, and 39-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fischer et al. (US 5,747,568) in view of EP0060421 (aka Endoh). Fischer teaches a molding material comprising 30-80wt% of an elastomeric grafting base and 20-70wt% of a shell grafted onto the grafting base (abstract). The grafting base comprises 90-99.9% of at least one alkyl acrylate and 0.1-10wt% of a polyfunctional crosslinking monomer. The shell comprises 0-100% styrene or substituted styrenes, and 0-100% of an acrylonitrile or methyl methacrylate. The above-

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described particles are dispersed in a hard matrix comprising 60-90wt% styrene or substituted styrene and 10-40% acrylonitrile (col 1, lines 48-col2, line 16). The composition may further contain up to 30t% of additives such as fibers (Col 4, lines 26-34). This composition exhibit good weather resistance, aging resistance, and high impact strength (col 4, lines 46-53), and are usable as signs (col 4, line 48).

Fischer does not teach that a PMMA transparent layer or a protective topcoat may be applied to the taught composition. However, Endoh teaches an extrusion laminate comprising a polyvinylidene fluoride layer, and an adhesive layer comprising a methyl methacrylate polymer (abstract). The methyl methacrylate polymer may comprise PMMA (page 9, lines 14+). The polyvinylidene fluoride layer provides the laminate with excellent weather resistance and chemical resistance. Thus, it would have been obvious to one of ordinary skill in the art to extrude the composition taught in Fischer with the polyvinylidene fluoride and PMMA layers taught in Endoh in order to improve the composition's weather and chemical resistance.

9. Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over (a) Fischer et al. (US 5,747,568) in view of WO96/09928 (aka Sallmetall), (b) Fischer et al. (US 5,747,568) in view of Ellison US 5,985,079), (c) Rosenau et al. (US 5,821,302) in view of Ellison (US 5,985,079), (d) Rosenau et al. (US 5,821,302) in view of Trabert et al. (US 5,318,737), (e) Rosenau et al. (US 5,821,302) in view of EP0060421 (aka Endoh), or (f) Fischer et al. (US 5,747,568) in view of EP0060421 (aka Endoh), as applied above, and further in view of Tsai et al. (US 5,858,550). Fischer in view of Sallmetall, Fischer in view of Ellison, Rosenau in view of Trabert, Rosenau in view of

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Endoh, Fischer in view of Endoh, and Rosenau in view of Ellison are relied upon as above. However, none of the references teach that the ratio of MFI values of the individual components of the laminated sheet is not more than 3:1. However, Tsai teaches that the constituents used to form a coextruded sheet should have melt properties that are substantially similar to one another (col 7, lines 51+). Thus, it would have been obvious to one of ordinary skill in the art to utilize resins that have MFI values substantially similar to one another so that the films can be effectively coextruded.

10. Claims 26 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over (a) Fischer et al. (US 5,747,568) in view of WO96/09928 (aka Sallmetall), (b) Fischer et al. (US 5,747,568) in view of Ellison US 5,985,079), (c) Rosenau et al. (US 5,821,302) in view of Ellison (US 5,985,079), (d) Rosenau et al. (US 5,821,302) in view of Trabert et al. (US 5,318,737), (e) Rosenau et al. (US 5,821,302) in view of EP0060421 (aka Endoh), or (f) Fischer et al. (US 5,747,568) in view of EP0060421 (aka Endoh), as applied above. Fischer in view of Sallmetall, Fischer in view of Ellison, Rosenau in view of Trabert, Rosenau in view of Endoh, Fischer in view of Endoh, and Rosenau in view of Ellison are relied upon as above. None of the references teaches the desired thickness of the laminate. However, Rosenau and Fischer each teach rigid compositions with enhanced impact resistance. Furthermore, Ellison, Trabert, Sallmetall, and Endoh each teach the application of protective layers to such substrates. Thus, it would have been obvious to one of ordinary skill in the art to vary the thickness of the laminate so that the laminate has the desired rigidity, impact resistance, and

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weather resistance for the intended end use. Furthermore, it would have been obvious to one of ordinary skill in the art to vary the thickness of the substrate composition in order to obtain the desired rigidity and impact resistance in the final product.

***Response to Arguments***

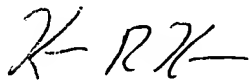
Applicant's arguments with respect to the pending claims have been considered but are moot in view of the new ground(s) of rejection.


***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin R Kruer whose telephone number is 703-305-0025. The examiner can normally be reached on Monday-Friday from 7:00a.m. to 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Thibodeau, can be reached on (703) 305-1261. The fax phone number for the organization where this application or proceeding is assigned is 703-305-5408.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

  
KRK

  
Paul Thibodeau  
Supervisory Patent Examiner  
Technology Center 1700